

Claims:

According to Examiner's requirements based on the final office action mailed on June 11, 2007, in **Allowable Subject Matter**, the final office action stated "*Claims 25 – 28, 46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.*"

Therefore, based on the above Examiner's requirements on the allowable subject matter in the final office action, Applicant has currently cancelled the claims 24, 33-45, and amended the claims 25-32, 46 as follows.

Claim 24 (cancelled)

Claim 25 (currently amended): ~~The spread-spectrum based A multichannel modulation Ultra Wideband (UWB) communication transceiver of claim 24 wherein said system having a multichannel pseudorandom noise (PN) sequence mapping, includes further comprising:~~ N-1 delay units coupled to N downsampling units followed by N Exclusive OR (XOR) units in parallel, and said N XOR units connected to ~~[[the]]~~ a PN sequence look-up table, where N is an integer and greater than 1.

Claim 26 (currently amended): ~~The spread-spectrum based multichannel modulation UWB communication transceiver system of claim 25 wherein said N XOR units can be controlled to spread [[N]] Q symbols in parallel with L PN chips from the PN sequence look-up table, where N, Q and L are integers, N and Q is greater than 1, and L is greater and equal to 1.~~

Claim 27 (currently amended): ~~The spread-spectrum based multichannel modulation UWB communication transceiver system of claim 25 wherein said multichannel PN sequence mapping is used to form N UWB multichannel signals in parallel, where N is an integer and greater than 1.~~

Claim 28 (currently amended): ~~The spread-spectrum based multichannel modulation UWB communication transceiver system of claim 27 wherein [[said]] each of the N UWB multichannel signals has a chip data rate of 650 Mcps approximately, where N is an integer and greater than 1.~~

Claim 29 (currently amended): The ~~spread-spectrum~~
~~based multichannel modulation UWB communication transceiver~~
~~system~~ of claim ~~[[24]]~~ 26 wherein ~~said PN-sequence look-up~~
~~table contains M orthogonal spreading sequences that are~~
~~used to spread the N UWB multichannel signals, where M and~~
~~N are integers~~ each of the N XOR units can be turned on or
off, where N is an integer and greater than 1.

Claim 30 (currently amended): The ~~spread-spectrum~~
~~based multichannel modulation UWB communication transceiver~~
~~system~~ of claim ~~[[29]]~~ 27 wherein each of said N UWB
multichannel signals are orthogonal to each other can be
turn on or off by controlling each of said N XOR units,
where N is an integer and greater than 1.

Claim 31 (currently mended): The ~~spread-spectrum-based~~
~~multichannel modulation UWB communication transceiver~~
~~system~~ of claim ~~[[24]]~~ 28 wherein ~~said multichannel PN~~
~~sequence mapping can produce the same operation results by~~
~~using an alternative system including:~~

~~a switch;~~

~~N XOR units;~~

~~said N XOR units connected to the PN-sequence~~
~~look-up table;~~

~~said switch can be controlled to connect with said N~~
~~XOR in a clockwise direction of rotational uniform speed~~
N UWB multichannel signals have a total chip data rate of
650N Mcps approximately, where N is an integer and greater
than 1.

Claim 32 (currently amended): The ~~spread-spectrum~~
~~based multichannel modulation UWB communication transceiver~~
system of claim [[31]] 27 wherein said multichannel PN
sequence mapping produces a scalability data rate by
~~controlling said switch and/or said PN sequence look-up~~
table in a step of increasing or decreasing 650 Mcps
approximately.

Claims 33-45 (cancelled)

Claim 46 (currently amended): The ~~spread-spectrum~~
~~based A multichannel modulation~~ Ultra Wideband (UWB)
~~communication receiver of claim 40~~ wherein said having a
dispredding for pseudorandom noise (PN) sequence and
demapping that produces an UWB symbol rate at 446.875 Msps
approximately.